MARCH 2.

The President, Dr. LEIDY, in the chair.

Twenty-four persons present.

MARCH 9.

Mr. EDW. POTTS in the chair.

Seventeen persons present.

The deaths of Jesse W. Starr, and of Ward B. Haseltine, members, were announced.

Botanical Notes:—*Secretion of Nectar in Libonia.*—At the meeting of the Botanical Section, on the 8th instant, Mr. THOMAS MEEHAN remarked that the Brazilian Acanthaceous plant, *Libonia*, secreted an enormous amount of nectar at the base of the flowers. As the corollas faded, and dropped from the receptacle, the nectar would be drawn over the still fresh pistil, and leave it with a succession of small globules, the whole shining like a necklace of diamonds in the sun. In a state of nature, honey-collecting insects would doubtless not permit it to accumulate to this extent.

Production of Nectar in Ornithogalum coarctatum.—This pretty species is distinguished by the development of broad sheathing stipular appendages at the base of the inner series of three stamens, stipular appendages as, following Mr. Worthington G. Smith, in a paper contributed to the Horticultural Congress in London in 1865, we must feel bound to term them. These appendages were closely appressed against the ovarium. Noticing little brownish globules projecting above the edges of these appendages he was led to examine, and found that nectar was secreted only at the base of the stipulate stamens. It was produced in such quantity as to press upwards and above the edges, as already noted. It was of thick consistence, and with the exact odor of honey. Above or near the apex of the ovarium—at the base of the short style—nectar exuded in limited quantity, and this suggested an analogy between the morphology of the carpellary leaves and the stipular filaments.

Mr. Meehan further remarked on the production of stipular appendages by the petals of flowers as accounted for by Mr. Worthington Smith. In one of his earliest contributions to the *Proceedings of the Academy* he had shown that in *Magnolia* the petals were formed by the suppression of the laminal portions and the development of the stipules. The petals were indeed

modified stipules, not true leaves. The petals of roses were certainly modified stipules, and this process of development could be traced in many plants. In this species of *Ornithogalum* there is but a slight dilation at the base of the outer whorl of stamens. A great advance is made in the stipular development in the inner whorl of stamens, where the appendages extend half-way up the filament. The three carpellary leaves formed the next whorl, and we might reasonably imagine a greater development of the stipular energy in a succeeding whorl, and therefore that these carpels were also enlarged stipules. An absolute proof of this was afforded by one plant, which had the habit of producing some flowers with an union evident from the phyllotaxy, of an outer petal (or sepal) with a stamen of the inner verticil. In this case the staminoid petal took the shape of the stipule, that is to say, it was emarginate, or inversely saggitate at the apex, the filament being wholly wanting, and with the anther in the sinus.

An additional fact of interest connected with this species is, that a large number of plants among seedlings, though with stamens apparently perfectly formed, have wholly sterile anthers.

Seeds on Depauperite Plants.—A specimen of a grass, *Setaria viride*, was exhibited, not over half an inch high, but which had a large number of perfect seeds nearly mature. It was exhibited to show that such minute plants might grow and produce seed annually for many successive years, the plants each year reproducing themselves among other vegetation, without any one being aware of their existence. When such tracts were ploughed up, and plants like this grass get a good chance to develop themselves fully, it would appear that there had not been any plant of the species growing for years, and the fact used to illustrate the long vitality of seeds in the earth. It might be that there was good evidence that cases of long vitality were undoubted; but it served a good purpose to point out where error may creep in.

Of Bracts in Cruciferæ.—It was an axiom that no true cruciferæ had bracts to the flowers. The double Sweet Alyssum of gardens, *Koniga maritima*, seemed an exception to this rule. The lower flowers were always solitary in the axils of the leaves, and the leaves were often reduced to mere bracts for a long distance up among the flowers. Branches but not flowers in cruciferæ would spring from the axils of the leaves. An examination of these double flowers showed that many had not followed the rule in double flowers, by transforming stamens to petals. Some, in fact, showed they were arrested branches, with depauperite leaves, a solitary petal being produced in the axil of each little leaf. The sepals seemed united, and formed a sort of sheath-like bract, above which the petal emerged. In this form they appeared as arrested spikes.

The Coronal Disk in Spiræa.—Exhibiting some flowers of *Spiræa Reevesiana*, Mr. Meehan called attention to the elevated disc which rose on the inner face of the line of filaments, and

pointed out the correspondence in outline of each division with the form of the two-celled anther. The inner line of stamens were alternate with these divisions, and the whole study led to the conclusion that this little crown was composed of the immature anthers of abortive stamens. He referred to *Acer rubrum*, and other plants, where, in the abortion of stamens the anthers were generally almost fully formed before the development of the filament, and remarked that in truly female flowers of this maple there was a course of sterile anthers as in this *Spiræa*.

MARCH 16.

Mr. THOMAS MEEHAN, Vice-President, in the chair.

Sixteen persons present.

MARCH 23.

The President, Dr. LEIDY, in the chair.

Twenty-eight persons present.

Fermentation in Perenji's Fluid.—Dr. BENJAMIN SHARP remarked that in a bottle of Perenji's fluid (nitric acid 10 per cent. sol. 4 pts., Chromic acid ½ per cent. sol. 3 pts., 95 per cent. Alcohol 3 pts.) effervescence was noticed. On shaking the bottle and removing the cork the fluid frothed violently, resembling very active beer; when the frothing had to a certain extent subsided, another shaking produced another violent frothing. The fluid had been used for hardening chick embryoes, and the portion used had been turned back so that a slight sediment was in the bottom of the bottle, and from this sediment the frothing seemed to originate. The sediment was examined with a high power lens, and Bacteria were found in great numbers. They were probably introduced with the sediment caused by the hardening of the organic tissues upon which they lived.

On the Eye of Pecten.—Prof. SHARP further called the attention of the members to the eye of *Pecten*. In one of his articles (On the Visual Organs of the Lamellebranchiata, Mitth. Zool. Stat. Neapel, 1884, p. 457), he makes the following assertion: "The question as to the function of this organ (the so-called eye of *Pecten*) is one of considerable interest. Hickson states that a few experiments have been made on this subject, concerning the visual power of this animal; he says 'It is very doubtful whether they (the so-called eyes) are of much value to the animal in avoiding its enemies. The most reasonable theory of their function seems to be that when in the ebbing tide, a